

FOXBOROUGH WATER AND SEWER DEPARTMENT
TOWN OF FOXBOROUGH
2010 Report to Consumers on Water Quality

The Foxborough Water and Sewer Department (PWS ID#4099000) is committed to providing residents with a safe and reliable supply of high-quality drinking water. We test our water using sophisticated equipment and advanced procedures. This annual "Water Quality Report," required by the Safe Drinking Water Act (SDWA), tells you where your water comes from, what our tests show about it, and other things you should know about drinking water. This report covers all testing completed from January 1, 2010 through December 31, 2010.

We encourage public interest and participation in our community's decisions affecting drinking water. Regular Board meetings occur at least twice a month, at the Foxborough Water & Sewer Department office, 40 South Street, Foxborough, MA. The public is welcome. Please call the office at (508) 543-1209 to obtain specific dates and times of meetings. You may also refer to our web page at www.foxboroughma.gov.

2010 Overview

In 2010, your water department distributed 706 million gallons of water to 5,342 water customers. We continued developing the Comprehensive Water Resource Management Sewer Plan, continued the meter up grades to radio read, commence design of the water treatment facilities for the Oak Street Site in the Taunton River Basin and cleaned and reconditioned three (3) wells. During the next year, we will continue developing the Comprehensive Water Resource Management Sewer Plan, complete design and bid the Oak Street Treatment Plant, continue with the installation of radio read meters and continue cleaning and reconditioning wells. The Foxborough Water Department will continue the toilet rebate program that began July 1, 2002. The rebate program will allow residents with older 5-to 8-gallon flush toilets to change to the up-to-date, water-saving 1.6-gallon flush toilets.

Residents who wish to participate in the program must show proof of installation and will then receive a \$100 refund from the Town of Foxborough Water Department. Please contact the Water Department for details.

A Sanitary Survey was completed by the DEP in December, 2010.

Water Source

The Town of Foxborough is supplied solely from groundwater resources located in the Boston Harbor, Ten Mile River and Taunton River Basins. Water is pumped from 13 gravel-packed wells located in six different well fields throughout the Town of Foxborough. There is also a small section of town that is supplied from Mansfield due to the location of water mains. In addition, there are also emergency connections with the Towns of Mansfield, Plainville, Sharon, Walpole and Wrentham.

Station 1: Boston Harbor River Basin (01G,02AG)

Station 2: Taunton River Basin (04G, 05G,06G)

Station 3 & 3A: Taunton River Basin (07G, 08G, 09G, 10G)

Station 4: Taunton River Basin (12G)

Station 5: Boston Harbor River Basin (13G)

Station 6: Ten Mile River Basin (14G, 15G)

The Town of Foxborough in 1989 adopted a Water Resource Protection By-Law for protection of the Town's drinking water wells..

An Explanation of the Water-Quality Data Table

The following table shows the results of our water-quality analyses. Every regulated contaminant that we detected in the water, even in the minutest traces, is listed here. The table contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health, the amount detected, the usual sources of such contamination, footnotes explaining our findings, and a key to units of measurement.

Definitions

Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Secondary Maximum Contaminant Level or SMCL: These standards are developed to protect the aesthetic qualities of drinking water and are not health based and are not legally enforceable.

Action Level or AL: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

90th Percentile: Out of every 10 homes, 9 were at or below this level

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminan

NR= Not Regulated

N/A= Not Applicable

ND = None detected

NTU = Nephelometric Turbidity Units

ppm = parts per million, or milligrams per liter (mg/l)

ppb = parts per billion, or micrograms per liter (ug/l)

TT = Treatment Techniques

pCi/l = picocuries per liter (a measure of radioactivity)

Water Quality Data Table

Contaminant Level	Date Tested	Unit	MCL	MCLG	Highest Detected Level	Range	Major Sources	Violation
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Radioactive Contaminants

Gross Alpha		pCi/L	15	0	1.2 ± 0.8	0.02±1.02 -1.2±0.8	Naturally occurring gas produced by the breakdown of uranium, rock & water	
Radium 226		pCi/L	5	0	0.3 ± 0.24	0.18±0.46 -0.3±0.24	Naturally occurring gas produced by the breakdown of uranium, rock & water	NO
Radium 228		pCi/L	5	0	3.1 ± 0.7	0.18±0.46 -3.1±0.7	Naturally occurring gas produced by the breakdown of uranium, rock & water	NO
Combined Radium		pCi/L			3.1	ND - 3.1		NO

Inorganic Contaminants and Unregulated Contaminants1**

Sulfate		ppm	NR	NR	13.4	ND-13.4	Naturally present in the environment	NO
Perchlorate		ppb	2.0	N/A	0.29	0.06-0.29	Rocket propellants, fireworks, munitions, flares and blasting agents.	NO
Nitrate		ppm	10	10	4.22	0.26-4.22	Found in fertilizer, sewage and waste from humans and/or farm animals	NO
Chlorine (Disinfectant Residual)		ppm	MRDL=4	MRDLG=4	2.02	0.00-2.02	Water additive used to control microbes	NO

Volatile Organic Contaminants, Trihalomethanes and Haloacetic Acids

Chloroform		ppb	NR	NR	5.5	ND-5.5	By-product of Drinking Water Chlorination	NO
Bromodichloromethane		ppb	NR	NR	4.8	ND-4.8	By-product of Drinking Water Chlorination	NO
Chlorodibromomethane		ppb	NR	NR	2.5	ND-2.5	By-product of Drinking Water Chlorination	NO
Bromoform		Ppb	NR	NR	0.60	ND-0.60	By-Product of Drinking Water Chlorination	NO
Total Trihalomethanes (TTHMs)		ppb	Running Annual Avg. 80	0	Running Annual Avg. 21.09	6.0-63.0	By-product of Drinking Water Chlorination	NO
Total Haloacetic Acids (HAA)		ppb	Running Annual Avg. 60		Running Annual Avg. 8.88	ND-29.3	By-product of Drinking Water Chlorination	NO

Microbiological Contaminants

Total Coliform		% of Positive Samples in a month	1 sample per month		3.4%	0-3.4%	Naturally present in the environment	NO
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LEAD & COPPER (Tap water samples were collected from 32 sites (30 homes and 2 schools) in the service area.

SUBSTANCE (UNITS)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90 TH %ILE)	NUMBER OF SITES ABOVE AL	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2008	1.3	1.3	0.24	0	NO	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2008	15	0	1	0	NO	Corrosion of household plumbing systems; Erosion of natural deposits

The Foxborough High was tested on 10/10/08 for lead. Lead ranged from, 0.002 – to 0.02

IDSE SAMPLING RESULTS2**

SUBSTANCE (Unit of Measure)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Haloacetic Acids (HAA)-IDSE Results (ppb)	2009	6.55	2.2 – 41.4	By-product of drinking water disinfection
TTHMs(Total Trihalomethanes)-IDSE Results (ppb)	2009	22.48	ND-23.3	By-product of drinking water disinfection

SECONDARY SUBSTANCES 3,4**

SUBSTANCE (Unit of Measure)	YEAR SAMPLED	SMCL	HIGHEST AMOUNT DETECTED	RANGE LOW-HIGH	EXCEDENCE	TYPICAL SOURCE
IRON (mg/l)		0.30	1.20	ND-1.20	YES	Erosion of Natural Deposits
MANGANESE (mg/l)		0.05	0.54	ND-0.54	YES	Erosion of Natural Deposits
SODIUM (mg/l)		20	81.6	25.8 - 81.6	YES	Natural presence in the environment, soil runoff

Water Quality Table Footnotes

Although we ran hundreds of tests, we only listed the substances that were at or above detection limits. Unless otherwise noted, sample dates are for the year 2010. The State allows us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent data are included, along with the year in which the sample was taken.

****1.** Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

****2.** We were required by the U.S. EPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE) and is intended to identify locations in our distribution system that have elevated disinfection by-products concentrations. Disinfection by-products, e.g., HAAs and THMs, result from continuous disinfection of drinking water and from when disinfectants combine with organic matter that naturally occurs in the source water.

****3.** The U.S. Environmental Protection Agency has established a lifetime Health Advisory for manganese at 0.3 mg/l and an acute Health Advisory at 1.0 mg/l. Although the Foxborough Water Department does not anticipate exceeding these Health Advisory limits in the distribution system, the water department recognizes that certain areas of town may occasionally experience aesthetic problems (i.e. color, taste, odor) due to elevated levels of iron and manganese.

The Foxborough Water Department plans to take the following actions in order to reduce the aesthetic problems caused by iron and manganese in the water supply: Continue to flush sections of the distribution system in the Spring and Fall and dead end mains on a regular basis, weather permitting; continue the addition of sodium hexametaphosphate for sequestration at all wells; Continue to utilize the wells lowest in iron and manganese as the base supply using the other wells, as needed, to meet seasonal demands and with the iron and manganese treatment facility becoming operational at the Witch Pond Wells in December of 2009, blend this treated output with the output of the wells having the lowest iron and manganese concentrations first, using the other wells, as needed, to meet peak demands and seasonal high flows.

****4.** The ORSG for sodium is 20ppm. Above this level, sodium sensitive individuals, such as those experiencing hypertension, kidney failure, or congestive heart failure, should be aware of the levels of sodium in their drinking water where exposures are carefully being controlled.

VIOLATIONS

For the monitoring period of 4/1/2010 to 6/30/2010, we violated our monitoring and reporting requirements for Witch Pond Treatment Plant for Volatile Organics and for radionuclides by failing to monitor the above contaminants for the quarter listed. These contaminants were then tested on 9/29/2010 for Radionuclides and 10/20/2010 for VOC'S. We are now in compliance. If you wish more information, please contact, Leo R. Potter, Water Superintendent at 508-543-1209 at the Water Department Office, 40 South Street, Foxborough, MA 02335.

LEAD AND COPPER

"If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Foxboro Water Dept. is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at

<http://www.epa.gov/safewater/lead/>"

RADON

Radon is a radioactive gas that you cannot see, taste or smell. It is found throughout the United States. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will be (in most cases) a small source of radon in indoor air. Currently, radon is not regulated but legislation has been proposed that will allow the EPA to establish an MCL. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call EPA's Radon Hotline, 800.SOS.RADON.

NATURALLY OCCURRING BACTERIA

The simple fact is, bacteria and other microorganisms inhabit our world. They can be found all around us; on our skin; in our bodies; and in the air, soil and water. Some are harmful to us and some are not. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems. Throughout 2010, we tested 377 samples for coliform bacteria. In that time, four samples came back positive for the bacteria. Federal regulations now require that public water testing positive for coliform bacteria must be further analyzed for fecal coliform bacteria. Fecal coliform are present only in human and animal waste. Because these bacteria can cause illness, it is unacceptable for fecal coliform to be present in water at any concentration. Our tests indicate no fecal coliform was present in our water.

TREATMENT

Iron and manganese are often present in groundwater at levels that can discolor the water, or cause it to take on unpleasant odors or tastes. Even though the water may still be safe to drink, treatment is often desirable. Treatment used by the Foxborough Water Department consists of adding sodium hexametaphosphate to water. This results in a chemical reaction known as sequestration, which prevents the iron and manganese from forming nuisance particles. Also starting in December of 2009, the Witch Pond Water Treatment Plant became operational to remove iron and manganese with green sand filters. All reservoirs and some ground water sources contain numerous microorganisms some of which can cause people to be sick. To eliminate disease carrying organisms it is necessary to disinfect the water. Disinfection does not sterilize the water, but it does destroy harmful organisms. Sterilization kills all microorganisms, even though most are not harmful, and is too costly to use on a routine basis. The Foxborough Water Dept. uses sodium hypochlorite as its primary disinfectant. Chlorine destroys organisms by penetrating cell walls and reacting with enzymes. Disinfection with chlorine has been proven effective at ensuring that water is free of harmful organisms and safe to drink.

Many drinking water sources in New England are naturally corrosive (i.e. they have a pH of less than 7.0). So, the water they supply has a tendency to corrode and dissolve the metal piping it flows through. This not only damages pipes but can also add harmful metals, such as lead and copper, to the water. For this reason it is beneficial to add chemicals that provide a protective pipe coating and make the water neutral or slightly alkaline. This is done by adding combinations of water treatment chemicals. The Foxborough Water Dept. adds sodium hexametaphosphate to its water. This is often referred to as an inhibitor and is what coats the inside of the pipe. It contains a small concentration of phosphate. Potassium Hydroxide is used to raise the water's pH to a non-corrosive level. Testing throughout the water system has shown that this treatment has been effective at reducing lead and copper concentrations. All chemicals used for treatment are approved for water treatment by one of the following organizations: National Sanitation Foundation (Now known as NSF International), or UL, both accredited by the American National Standards Institute (ANSI). Chemicals also have to meet performance standards established by the American Water Works Association.

SWAP Report

The Massachusetts Department of Environmental Protection (DEP) has completed the Source Water Assessment and Protection (SWAP) Program Report for the Foxborough Public Water System and a copy is available at the Water Dept. office. This report has assigned a susceptibility ranking of high based upon the information collected during the assessment by the DEP. This ranking was assigned due to the presence of at least one high threat land use within the water supply protection area that could be a source of potential contamination by microbiological pathogens and chemicals. The Water Department also completed the Vulnerability Analysis and Emergency Response Plan Study. For further information, please contact the Water Dept.

Contamination from Cross Connection

Cross-connections that could contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems) or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage). Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continually jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed all industrial, commercial, and institutional facilities in the service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test each backflow preventer to make sure that it is providing maximum protection. For more information, visit the Web site of the American Backflow Prevention Association (www.abpa.org) for a discussion on current issues

To ensure that tap water is safe to drink, the Department and the EPA prescribe limits on the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) and the Mass. Dept. of Public Health regulations establish limits for contaminants in bottled water.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- (B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, stormwater runoff, and residential uses.
- (D) Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.
- (E) Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems.

FDA regulations establish limits for contaminants in bottled water that must provide the same protection for public health. Some people may be more vulnerable to contaminants in drinking water than is the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline (800-426-4791).

National Primary Drinking Water Regulation Compliance

The Foxborough Water and Sewer Department, 40 South Street, Foxborough, MA 02035 prepared this report. If you have any questions, please do not hesitate to call Leo R. Potter, Superintendent (508) 543-1209.

Office hours are Monday, Wednesday and Thursday 8:30 A.M. to 4:00 P.M.; Tuesday – 8:30 A.M. to 4:00 P.M. and 5:00 P.M. to 8:00 P.M. and Friday – 8:30 A.M. to 12:30 P.M. Fax Number (508) 543-6278. For water problems outside of normal hours, please call the Foxborough Police Department at (508) 543-1212.

Water Department
Town of Foxborough
40 South Street
Foxborough, MA 02035

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